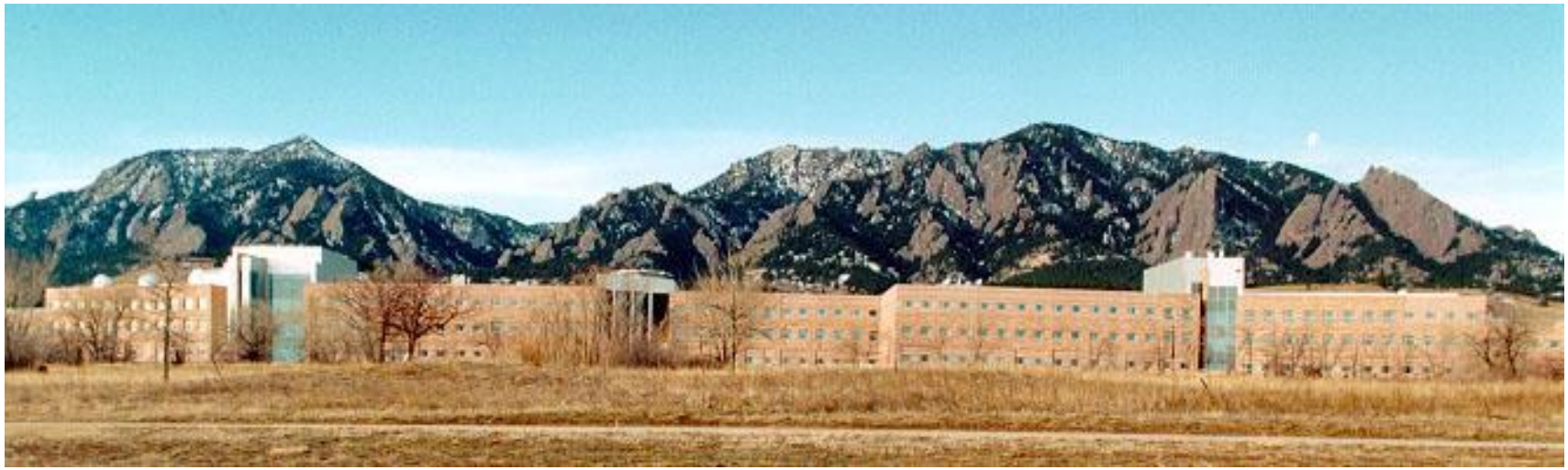


Program Management Review

03 April 2006

2QFY06

Dr. William F. Denig, Chief

Solar (and) Terrestrial Physics Division

NOAA/NESDIS

303 497-6323

William.Denig@noaa.gov

OUTLINE
STP Program Management Review

- **STP Overview/Status (7)**
- **Earth Observation Group (8)**
- **Earth Geophysics Group (9)**
- **Space Environment Group (11)**
- **NPOESS Nunn-McCurdy Update (1)**
- **Concluding Remarks (1)**

WHO WE ARE
STP Overview

Solar-terrestrial Physics Division
William Denig/F Chief
Janet Brown/F, Secretary

Space Environment Group (SEG)

Eric Kihn/F, Team Lead
- Terry Bullett, AFRL
- Craig Clark/F
- Helen Coffey/F
- Ray Conkright/C
- Ed Erwin/F
- Justin Mabie/C
- Rob Redmon/F
- Herb Sauer/C
- Dan Wilkinson/F

Earth Observation Group (EOG)

Chris Elvidge/F, Team Lead
- Kim Baugh/C
- Pat Hayes/C
- Ara Howard/C
- Ben Tuttle/C
- Vacant/C
- Vacant – Data Manager/F

Earth Geophysics Group (EGG)

Sue McLean/F, Team Lead
- Patrick Alken/C
- Ron Buhmann/F
- Paula Dunbar/F
- Karen Horan/F
- Joy Ikelman/F
- Stefan Maus/C
- Rob Prentice/C
- Jesse Varner/C
- Chris Hammond/S
- Andrew Kimbrel/S
- Kelly Stroker/C
- Vacancies – 4

Key
F – Federal
C – CIRES/CIRA
S – Student

Personnel Changes
STP Overview

- **Gains**
  - **Janet Brown/F (STP) – Secretary**
- **Losses**
  - **None**
- **Vacancies**
  - **EOG data manager (Federal)**
  - **EOG EO scientist (CIRES)**
  - **EGG data manager (Federal slot on hold)**
- **Inbound**
  - **EOG – Christof Aubrecht – University of Vienna**
  - **SEG – Kristen Mihalka – Univ. Missouri – Hollings scholar**
- **Pending**
  - **Ron Buhmann/F (EGG) – Probable retirement in 2QFY07**
  - **CIRES PRA Geodesist (EGG) – In process**
  - **CIRES PRA Geophysicist (EGG) – Offer extended**
  - **CIRES RA Geophysicist (EGG) – Offer extended**
  - **CIRES PRA Geomagnetic Manager (EGG) – In process**

FY06 Milestones
STP Overview

	PPBES Program	STP FY06 Milestones	Status	Planned Completion Date	Actual Completion Date	Responsible Person
	Space Weather	Complete the rescue of the PCI data including, archive preservation, integration in the SPIDR and quality analysis.	C	(Q1) 12/31/2005	(Q1) 12/15/2005	Kihn
AOP →	Space Weather	Construct a 15-year gridded database of results from linked assimilation models	C	(Q2) 3/31/2006	(Q2) 3/20/2006	Kihn
	Space Weather	Complete the rescue of the RSTN data including, archive preservation, integration in SPIDR and quality analysis	C	(Q2) 3/31/2006	(Q2) 1/9/2006	Coffey
	Space Weather	Publish a Looking Forward to GOES-R web announcement for current users of GOES and POES SEM data	C	(Q2) 3/31/2006	(Q2) 1/17/2006	Wilkinson
	Space Weather	Add 50 Gigabytes of high resolution daily solar H-alpha images to NGDC archives	G	(Q3) 6/30/2006		Coffey
	Space Weather	Automate the collection, analysis, archive, and dissemination of the USAF ionospheric sounding stations	G	(Q4) 9/30/2006		Redmon
AOP →	Space Weather	Publish Space Weather Analysis (SWA) derived products such as indices via the web	G	(Q4) 9/30/2006		Kihn
	Space Weather	Complete migration of space weather data to the ADIC TLS: GOES SEM, POES SEM, and GOES SXI	C	(Q2) 3/31/2006	(Q2) 3/28/2006	Wilkinson
AOP →	Space Weather	Integrate the NASA CDAWeb data resources with the Space Physics Interactive Data Resource (SPIDR) system.	G	(Q1) 12/31/2007		Kihn
	Marine Transportation Systems	Improve resolution of crustal magnetic field model from degree 90 to 720 to improve ENC navigation models.	G	(Q4) 9/30/2006		McLean
AOP →	Tsunami	Establish archive of tsunami program DART and BPR historical data (3 GB)	C	(Q2) 3/31/2006	(Q2) 3/28/2006	Stroker
	Tsunami	Review and document 60% of deadly past tsunami events	C	(Q2) 3/31/2006	(Q2) 3/28/2006	Dunbar
	Marine Transportation Systems	Increase volume of CORS GPS data ingested annually and placed into the archive by 2 TB.	C	(Q2) 3/31/2006	(Q2) 3/28/2006	McLean
	Marine Transportation Systems	Increase the volume of the DMSP tape library archive by 4 TB	G	(Q4) 9/30/2006		Erwin
	Marine Transportation Systems	Delivery of 3 TB of DMSP data on line.	G	(Q4) 9/30/2006		Elvidge
	Marine Transportation Systems	Generation of first global DMSP OLS imagery constructed area grid at 1 km resolution	G	(Q4) 9/30/2006		Elvidge
	Marine Transportation Systems	Implementation of new near-real time satellite data processing and delivery system for DMSP OLS	G	(Q1) 12/31/2007		Elvidge

Financial
STP Overview

Team	Income	Expenses	Net	Status
SEG	2,414K	2,392K	+20K	Y
EOG	801K	916K	-115K	R
EGG	1,619K	1,630K	-11K	Y

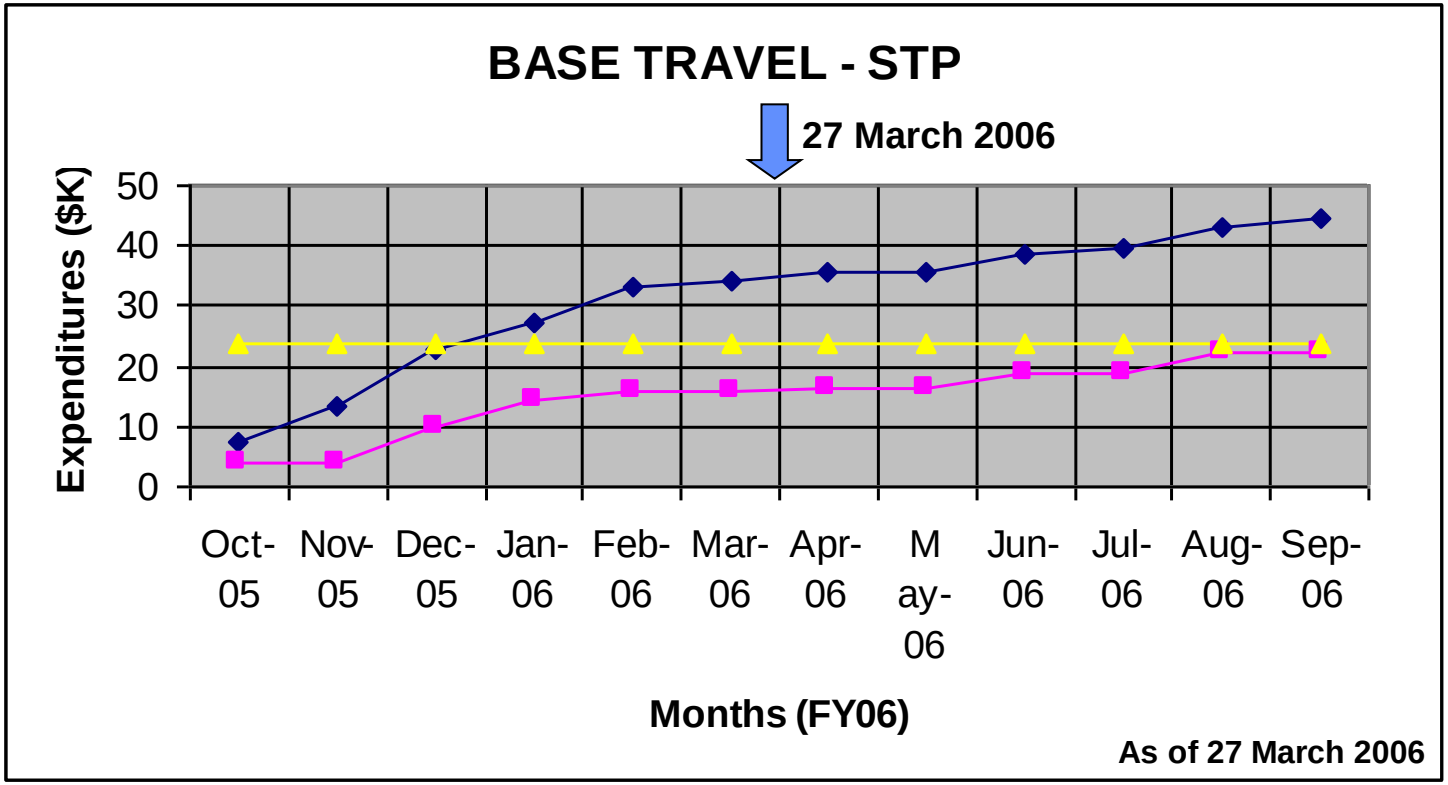
G — Income = Expenditures

Y — Income is within 10% of but not equal to Expenditures

R — Income is not within 10% of Expenditures

As of 03 March 2006

Travel
STP Base Travel



CDMP FY06 Proposals
STP Overview

Subject	New	Continuing	POC	Contractor ($K)	NGDC ($K)	Comments
Heat capacity mapping mission	X		Elvidge	40.0	4.0	Accept
DMSP film scanning		X	Elvidge	800.0	75.0	Accept
Historical solar spectral data	X		Coffey	60.0	6.0	Accept
Historical solar observations		X	Coffey	85.0	8.5	Accept
Historical ionosonde records		X	Kihn	75.0	7.5	Accept[1]
Rescue of historical tsunami data	X		Dunbar	30.0	3.0	Accept

Notes:
[1]Restructuring program

MOUs / MOAs
STP Overview

STATUS

NGDC	Team	Type		NOAA Legal	DOC Legal	NGDC Signed	Partner Signed	Year	Duration	Status	
DMSP Archive	SEG	MOA	DMSP	X	X	X		2	5	G	Awating DMSP signature - info only
AFCCC	SEG	MOU	AFWA	X	X	X	X	3	10	G	In place - nothing to report - info only
Ionosonde	SEG	MOU	AFWA	X	X			-	5	G	Awaiting AFRL signature - info only
NASIC	EOG	MOU	NASIC	X	X	X	X	1	5	G	In place - nothing to report - info only
CORS Support	EGG	MOU	NGS	X	X	X	X	3	3	G	1-year extention in process - info only
World Mag Model	EGG	MOU	NGA	X	X	X		3	5	Y	**Modified; Awaiting NGA signature**

Other	Team	Type		NOAA Legal	DOC Legal	NOAA Signed	Partner Signed	Year	Duration	Status	
SWARM	EGG	MOU	NPOESS	X	X					Y	**Awaiting ESA; Withee action**

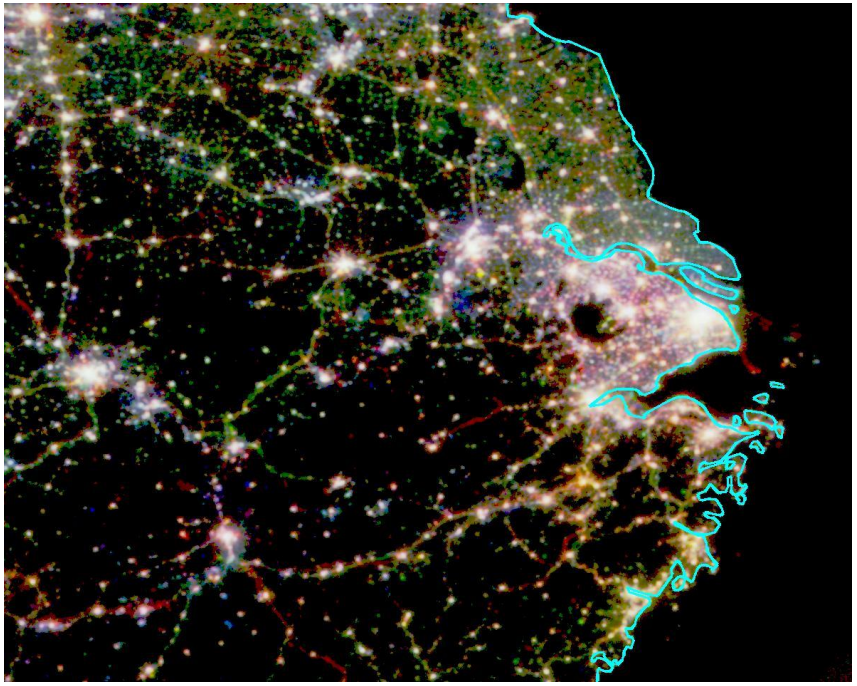
Earth Observation Group
Overview

The mission of the EOG is to provide archive data management (ingest, archive and access) for NOAA and other earth observation remote sensing data, development and production of higher-level products, development of data delivery / customer base, and participation with scientific communities

Team Lead: Dr. Chris Elvidge

- **Archive grows 15 GB/day**
- **Archive now at 56 TB[1]**
- **Annual composites are distilled from about 1 TB of geolocated OLS data**

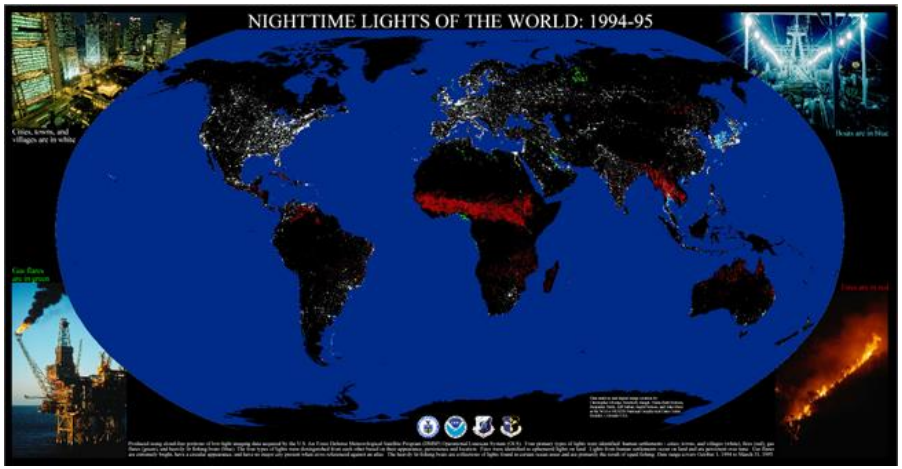
[1]Does not include DMSP "raw" data backup



DMSP-OLS Average visible band DN color composite of Shanghai (2003, 1998, 1992 as red, green, blue)

STP/EOG Task
DMSP NightTime Lights

NightTime Lights of the World



Background – DMSP OLS (visible and infrared) imagery from 1973 to present is used to observe lights from cities, fires, gas flares and fishing boats.

Purpose – DMSP NightTime lights are used to map changes in economic activity, population numbers and constructed area. The products are widely recognized as a key satellite observation of humanities presence on the land and ocean surface.

Upcoming Milestones

4QFY06 – Increase volume of DMSP tape library archive by 4 TB

4QFY06 – Deliver 3 TB of DMSP data on line

4QFY06 – Generate 1st global DMSP OLS imagery constructed on a 1-km grid

1QFY07 – Implement new near-real time satellite data processing & delivery system for DMSP OLS

Team Members: Chris Elvidge, Kim Baugh, Ara Howard, Pat Hayes, Ben Tuttle

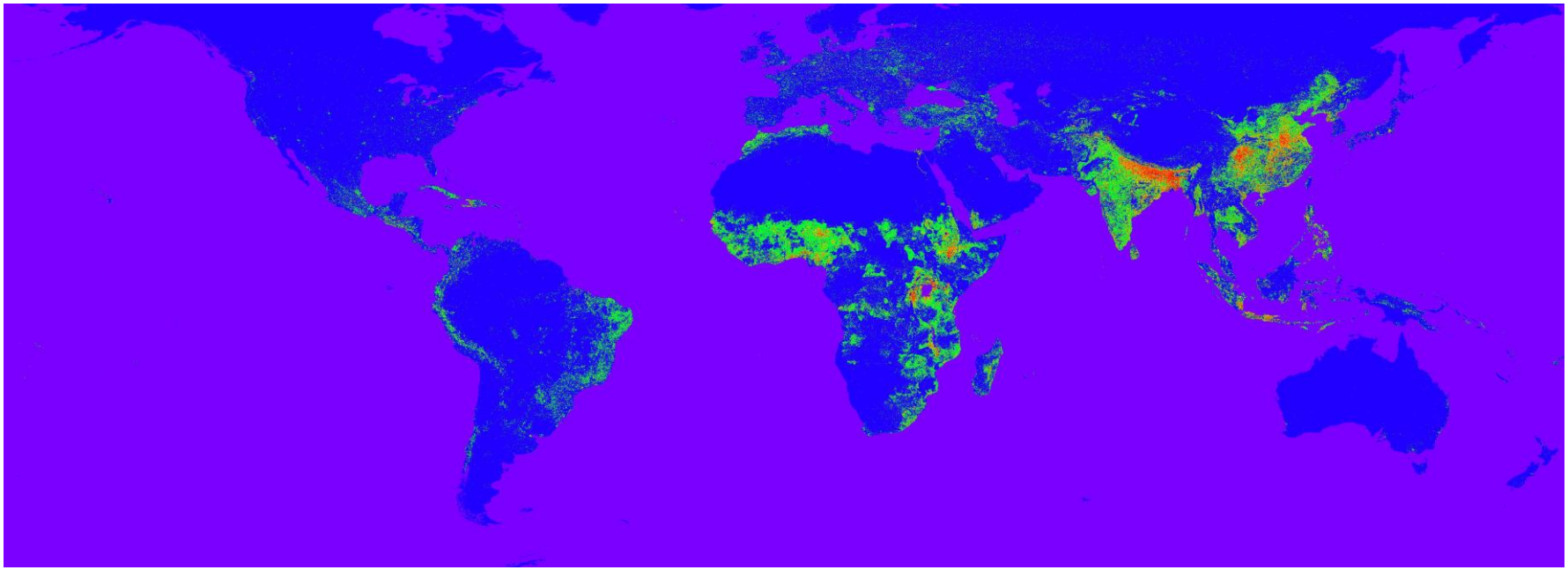
Status: Version 2 time series posted on the www. 400+ sets downloaded in first month.

www.ngdc.noaa.gov/dmsp/global_composites_v2.html

Marine Transportation System program

Special Interest Item
Earth Observation Group

Global Poverty Index
Population density / brightness of lights

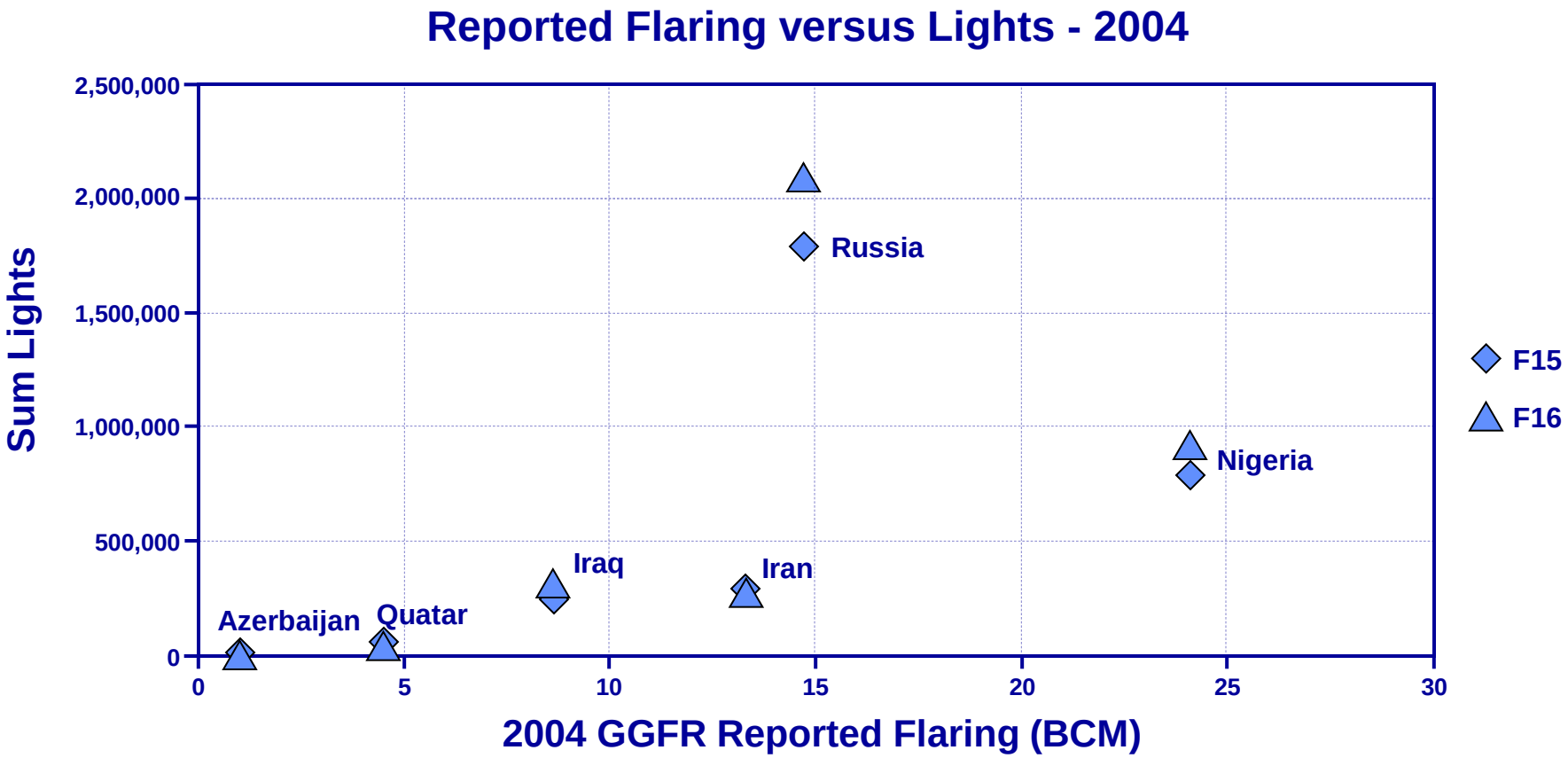


DOE-ORNL LandScan 2004 population density divided by NGDC's 2003 average visible band digital number for persistent lights

First consistently derived estimate of number of people living in poverty

Special Interest Item
Earth Observation Group

DMSP Lights Versus Gas Flaring Estimates



Initiative - NRT Global Mosaics

Earth Observation Group

- Assume implementation of new NRT system as described
- Planned NRT system with 4 nodes could accommodate the load
  - ✓ A single node can geolocate all the nighttime data from 4 DMSPs
  - ✓ Two nodes could do the geolocation + mosaic assembly
- Development needed to optimize override rules for best composites
  - ✓ Middles of orbits best, discard sunlit and glare
- Standard format would be UTD – spanning longitudes -180º to 180º
  - ✓ Mosaic would be regenerated each time new data became available
- Finished UTD mosaics would be archived
- Web access allow unrestricted browse of decimated mosaics [*TBD*]
- Access to full resolution mosaics & interactive sub-setting via password protected subscription services [*TBD*]

Improved public/customer access to NRT global mosaics would be a great publicity draw

Future Directions
Earth Observation Group

- Focus on service to NESDIS by providing data center functionality for NOAA and other EO data.
- Continue DMSP archive and flagship nighttime lights products. DMSP built out to F-20 (2015 – or possibility 2022 per latest NPOESS schedule alternative)
- Building data center functionality for additional EO data sets:
  - ✓ MODIS and VIIRS (they go together)
  - ✓ NOAA NOS scanned aerial photography (NOS has submitted a CDMP proposal for scanning the archive)
  - ✓ Other NASA EO data covered by 1989 MOU (e.g. HCMM)
- Develop capability to provide nighttime lights data and products from the VIIRS DNB data. Data from the IDPS will have to be reprocessed to fix scanline offsets and apply a terrain correction. EOG plans to work on the algorithms and develop a processing system for NRT users and global lights.
- Propose a Nightsat specifically designed for global mapping of nighttime lights.
  - ✓ Mission concept submitted to NRC Decadal Survey
  - ✓ Nightsat manuscript in review at IJRS

Accomplishments
Earth Observation Group

- **2 peer review publications**
- **Demonstrated potential for 800 GB per day a transfer rate from NGDC to MAFF Japan**
- **Conducted first global assessment of gas flaring trends – finding that global levels have been stable since the early 1990's and that Russian flaring is vastly underestimated**
- **Developed prototype for a satellite data derived global poverty index**
- **NOAA Proposals submitted to PRIDE, North Gulf Coast Initiative and Education Initiative**

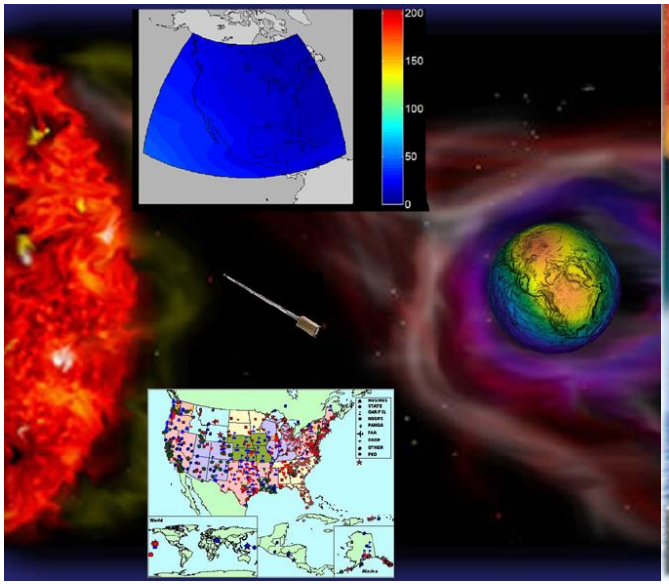
Issues & Concerns
Earth Observation Group

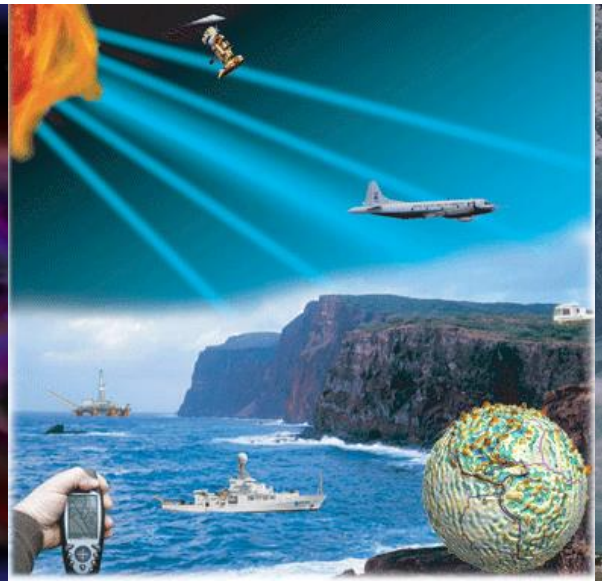
- **Additional funds are needed to cover projected FY06-07 expenses. NASA project ($100 K) is entering final year – funding gap narrowed to $115 K**
- **To what extent should data services be funded by data sales and science projects – see Initiative – NRT Global Mosaics**
- **How can experimental products and services be migrated to operational?**
- **DMSP archive and nighttime lights support multiple NOAA programs – is Marine Transportation System the best program for the EOG? How about Satellite Data Services?**

Earth Geophysics Group
Overview

The focus of the EGG is to provide scientific stewardship, products, & services for data from Earth's physical environment supporting safe navigation and mitigating the impact of geophysical hazards. The EGG also supports international data collection, exchange and visiting scientists through the WDC.

Team Lead: Susan McLean





STP/EGG Task
Natural Hazards Database

Prince William Sound Alaska Tsunami - 1964

Background – NGDC acquires, processes, analyzes & disseminates socio-economic & technical data on natural hazards, including earthquakes, tsunamis & volcanoes.

Purpose – Long-term data from natural hazards, including photographs, can be used to establish the past record of natural hazard event occurrences. These data are also important for planning, response and mitigation of future events.

Upcoming Milestones

2QFY06 – Review and document 60% of the deadly past tsunami events (***done***)

⇨ **2QFY06** – Increase volume of historic tsunami, DART, bathymetric, and model data described, archived, and accessible on-line (***done***)

⇨ Milestone in the AOP

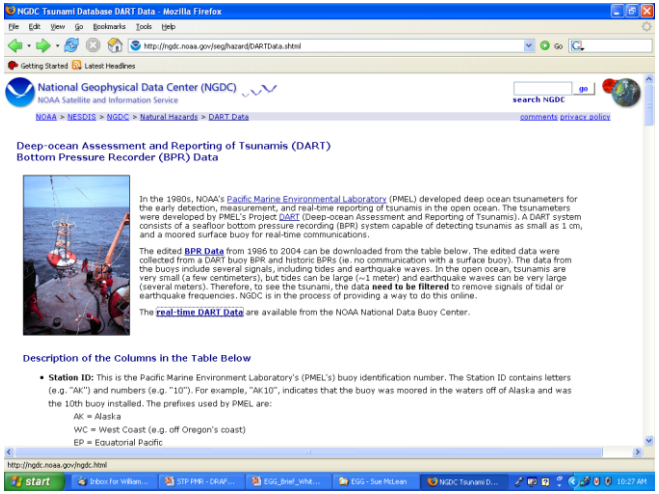
Team Members: Susan McLean, Paula Dunbar, Joy Ikelman, Karen Horan, Kelly Stroker, Jesse Varner

Status: Two new hires in process through CIRES to replace K. Brantley & expanded effort to address additional Program duties.

Upcoming Deliverables: Data Management Assessment (5 Apr), CORL (17 Apr), US Hazard Assessment (Nov), Data Management Report (Dec)

Tsunami program

AOP 2Q FY06 Milestone
National Geophysical Data Center



Milestone: Establish archive of tsunami program Deep-ocean Assessment and Reporting of Tsunami (DART) Buoy & Bottom Pressure Recorder (BPR) historical data (3 Gb)

Program: Tsunami (Weather & Water)

POC: Kelly Stroker – 303 497-4603

Status: Completed (28 March 2006)

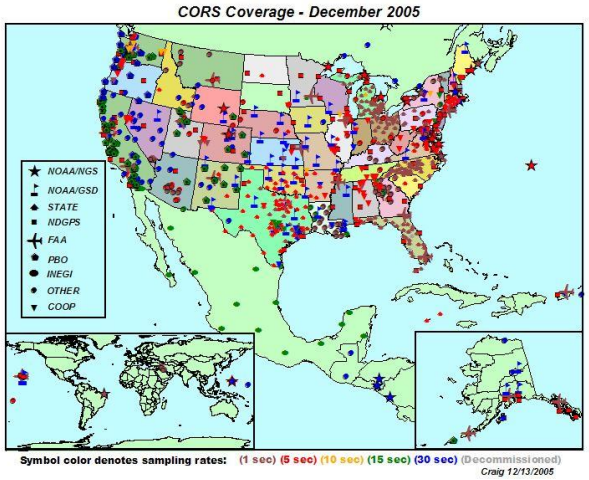
Description: After the devastating tsunami of December 2004, NOAA implemented a tsunami hazard improvement team and formed the NOAA Tsunami Program. Under both of these activities, NGDC has the role for the long-term archive of tsunami-related data, including NOAA's BPR / DART LTA.

Significance: DART buoys are deployed near U.S. coastal regions having a history of tsunami generation. Historical records provide the baseline against which real-time measurements can be compared to assess the tsunami threat.

Future Work: Improve user access & functionality of DART / BPR data available through the existing hazard web page.

STP/EGG Task
Continuously Operating Reference Station

CORS Coverage



Background – NOAA / NGS coordinates a network of continuous GPS receivers for 3-dimensional positioning activities throughout the US and its territories.

Purpose – NGDC is an operational backup for the primary NGS site (in Silver Spring, MD). NGDC also supplies CORS data in near real-time to NOAA SEC and GSD for use in ionospheric and weather specification and forecast models.

Upcoming Milestones

2QFY06 – Increase volume of CORS GPS data ingested annually & placed into the archive by 2 TB (***done***)

MOU Status – A 1-year extension to the NGS / NGDC Agreement for CORS-West is in draft stage (at NGS) - work on a new 3-year agreement deferred until fall 2006.

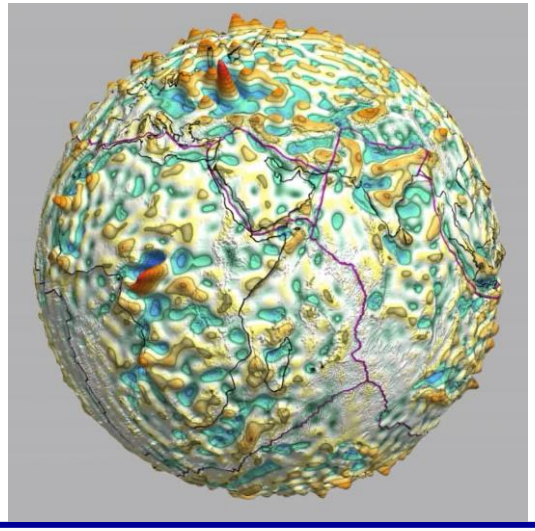
Team Members: Susan McLean, Ron Buhmann, Ernie Joynt, Rob Prentice, Karen Horan, Vacancy – CIRES PRA

Status: CORS planning meeting held at NGDC on March 17. Number of CORS ground sites increasing beyond expectations. Working 2 possible NGS employees at NGDC.

Marine Transportation System program

STP/EGG Task
Geomagnetic Data & Services

Crustal Magnetic Field



Background – The WMM is the standard magnetic model used by US military/civilian agencies and allied nations. The WMM is a product of the United States National Geospatial-Intelligence Agency. NGDC and the British Geological Survey jointly produce the WMM.

Purpose – The WMM satisfies requirements supporting navigation and attitude/heading referencing systems.

Upcoming Milestones

4QFY2006 – Improve resolution of crustal mag field from degree 90 to degree 720 to improve Electronic Navigation Chart (ENC) navigation models

Team Members: Susan McLean, Stefan Maus, Karen Horan, Chris Hammond, Andrew Kimbrel, Patrick Alken

Status: Continuing on track. Stefan Maus has initiated a weekly lecture series on magnetism. SWARM downlink via NPOESS in currently stalled awaiting ESA decisions (Mr Withee action). Funding to NGDC for real-time SWx product is at risk.

Marine Transportation System program

Issue For The Director
Geomagnetic Data & Services

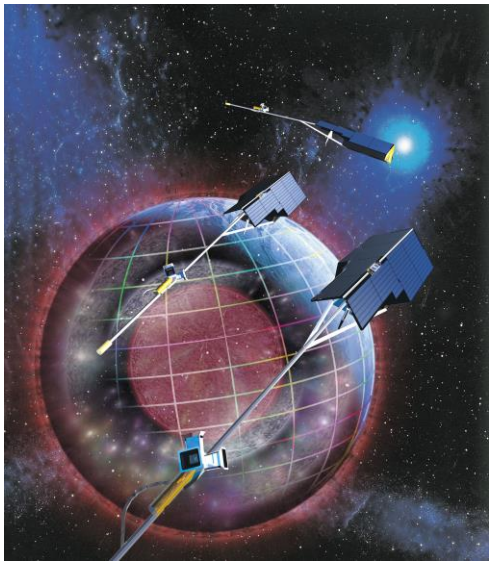
Issue: Lack of Progress with SWARM

Background: Senior leaders within NESDIS (G. Withee, Ltd dtd 28Oct05 and ESA (Dr. Volker Liebig, Ltr dtd 28Nov05) have agreed in principle to work together on a SWARM downlink strategy. A C-175 clearance memo on a proposed SWARM MOU was approved on 12Dec05. Mr. Withee and Dr. Liebig are schedule to meet in late spring/early summer to discuss areas of mutual interest including SWARM.

Action Plan: The ball is currently in ESA's court. Dr. Liebig stated in his 28-Nov letter, "I suggest we come back to you once the end-to-end ground segment scenario . . . has been fully analyzed . . ." Since that time we have been getting mixed messages on how this proposed interaction is being accepted within Europe.

Action for the Director: Request that the Director alert Mr. Withee on the current SWARM status (attached chart) and ask him to include SWARM in his upcoming discussions with Dr. Liebig.

Status of SWARM – 03 Apr 06
National Geophysical Data Center



- The objective of the Swarm mission is to provide the best ever survey of the geomagnetic field and its temporal evolution, and gain new insights into improving our knowledge of the Earth's interior and climate.
- The Swarm architecture consists of a constellation of three identical satellites in three different polar orbits between 300 and 530 km altitude.
- The satellites provide magnetic field and ionospheric plasma measurements which are valuable for real-time space weather monitoring.

- NESDIS has entered into discussions with ESA regarding the use of the NPOESS SvalSat antenna to download the SWARM data in near-real time.
- SWARM data satisfies the NPOESS Magnetic Field EDR requirement and the NGDC (DoD) needs for producing the World Magnetic Model.
- ESA is currently assessing the utility of SvalSat for SWARM command and control.

Accomplishments
Earth Geophysics Group

- **Report to Congress on NOAA's Data Management complete**
- DART Retrospective Archive established; data and metadata online
- Completed QA / QC of ~35% of the historic tsunami database
  - 100% of US coastal runups
  - Contributed to March 2006 National Geographic map on earthquake hazards
- Added 4,457 Volcanic Events to historic event database
- Ingested and archived over 12 Tb CORS data (FY05Q1- FY06Q2)
- **Supplied SEC with CORS data at 5-minute latency and archive / distribute SW products with 24-hour latency**
- Served over 1 million online field values from the IGRF (Q205-Q206)
- Staff attended several major conferences, presented papers / posters, worked with data providers
- **14 papers published in peer-reviewed journals (2005-2006)**
  - **6 papers submitted or in print**

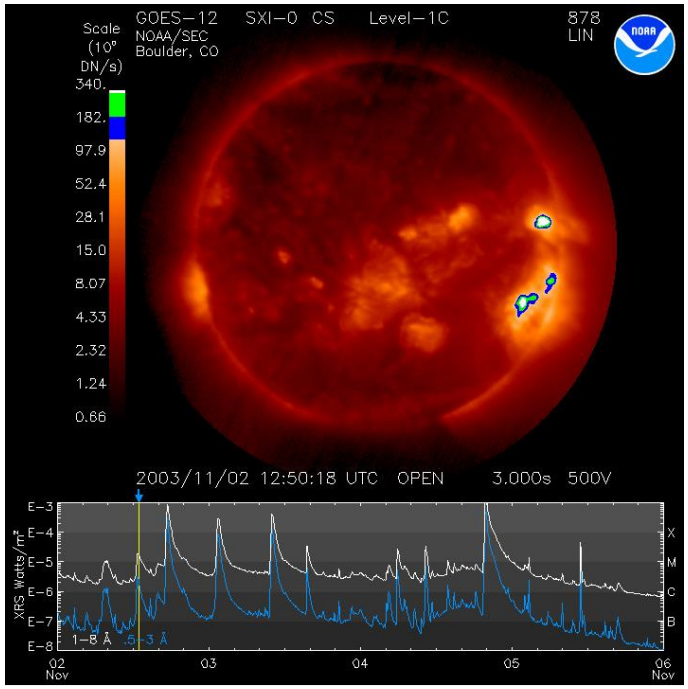
Issues & Concerns
Earth Geophysics Group

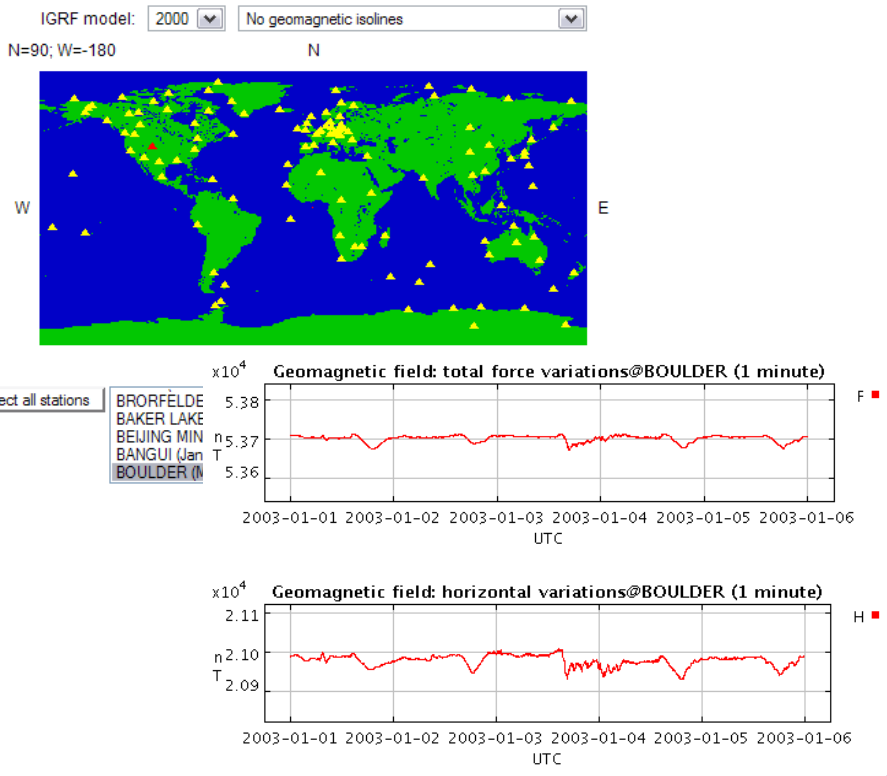
- **Vacancies**
  - Data Manager retired August 2005(advertised – expect offer May 1)
  - CIRES PRA Geodesist (advertised – expect offer May 1)
  - CIRES RA & PRA Physical scientist (offers submitted to CIRES)
- **Hazards QA / QC Partnerships (i.e. Humboldt State)**
  - Ensure quality and quantity
  - Developing and funding foreign expertise
- **Expanding uses of "SPIDR"**
  - New interest in SPIDR geomagnetic data sites
  - Utilizing SPIDR applets to serve hazards time-series
  - SPIDR serving of CORS station data
  - Expanding station histories in SPIDR
- **CIRES funding – tracking project budgets**
- **Funding of visiting scientists/projects via WDC structure**

Space Environment Group
Overview

The Space Environment Group is focused on the archive and management of NOAA's space environmental data. The SEG also supports international data exchange and collection through World Data Center activities.

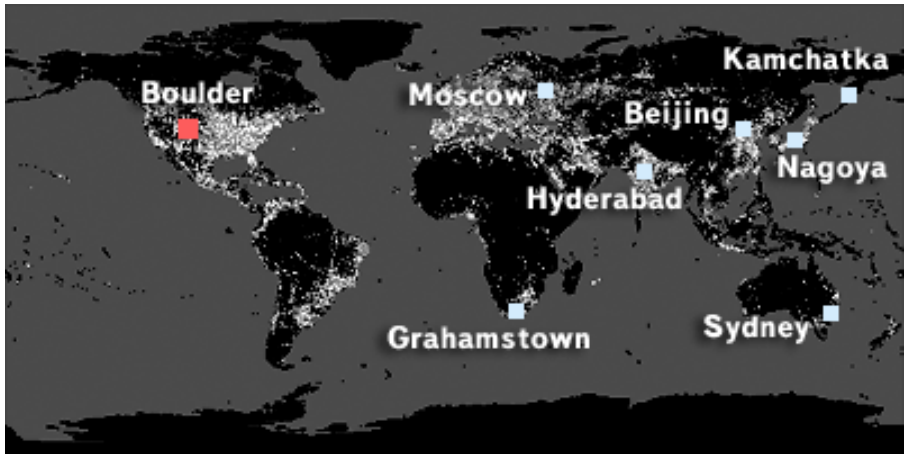
Team Lead: Eric Kihn





STP/SEG Task
Space Physics Interactive Data Resource

Global SPIDR mirror sites



SPIDR nodes as of January 2006.

Background – SPIDR is a distributed network of synchronous databases and 100% Java middle-ware servers accessed via the World Wide Web. SPIDR 4.0 is in test phase.

Purpose – SPIDR allows a solar terrestrial physicist to intelligently access and manage historical space data for integration with environmental models and space weather forecasts.

Milestones

1QFY06 – Complete PCI data rescue (***done***)

⇨ **4QFY06** – Publish SWA derived products such as indices via the web

⇨ **1QFY07** – Integrate CDAWeb with SPIDR

⇨ Milestone in the AOP

Team Member: Eric Kihn, Rob Redmon (Mikhail Zhizhin)

Status: E. Kihn and W. Denig visited the GSFC to discuss coupling SPIDR with CDAWeb. Initial work on the POES SEM conducted at NGDC and GSFS was discussed and de-conflicted.

Space Weather program

Issue For The Director

Space Physics Interactive Data Resource

Issue: Problems with Ionospheric Data Available through SPIDR

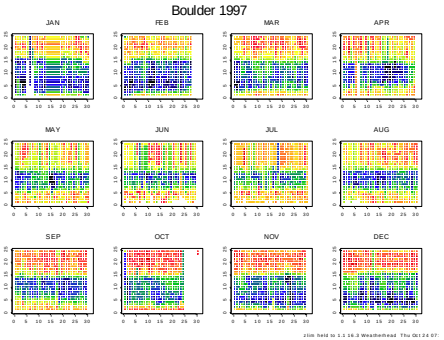
Background: SEC has brought to our attention various problems with the ionosonde database included in SPIDR. There are three issues that need to be addressed (see next slide). Some of these problems have been known for some time. The utility of data within SPIDR and the credability of NGDC are at stake.

Action Plan: STP will investigate the issues involved and develop aa action plan. STP needs to more actively engage the scientific community to assess the reliability of the ionosonde data. Immediate target is the upcoming IRI Workshop 2006 – "New Measurements for Improved IRI TEC Representation" in Buenos Aires, Argentina (16-20 October 2006)

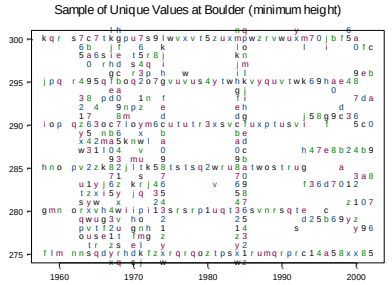
Action for the Director: Info only. No action required at this time.

Issue For The Director

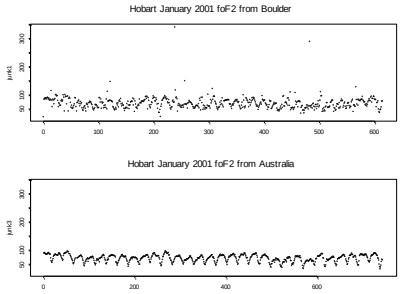
Space Physics Interactive Data Resource



Issue 1 – There are artifacts in the ionosonde data that appear to be due to repeating values. These appear as stripes in the figure to the left.

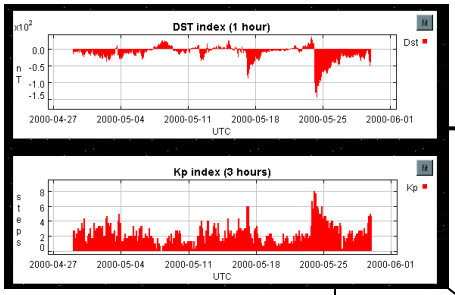


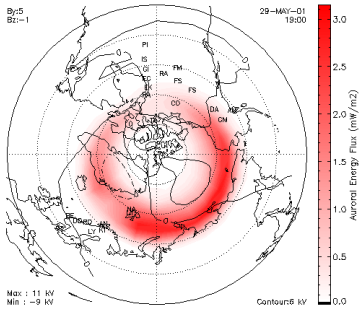
Issue 2 – The resolutions with which ionospheric heights are determined have changed with time.



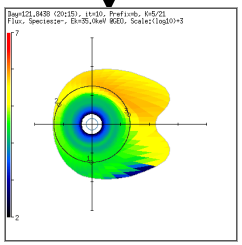
Issue 3 – Data within SPIDR is different from that available through other SPIDR nodes. Annual SPIDR "synch" may have corrupted other data sets.

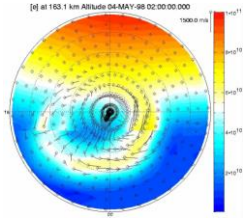
STP/SEG Task
Space Weather Analysis





SWA Data Flow





Purpose – The objective of this project is to generate a complete 16-yr space weather representation using physically consistent data-driven space weather models. The project will create a consistent, integrated, historical record of the near Earth space environment by coupling observational data from space environmental monitoring systems archived at NGDC with data-driven, physically based numerical models.

Upcoming Milestones

⇨ **2QFY06** – Construct a 15-year gridded database of results from linked assimilation models (***done***)

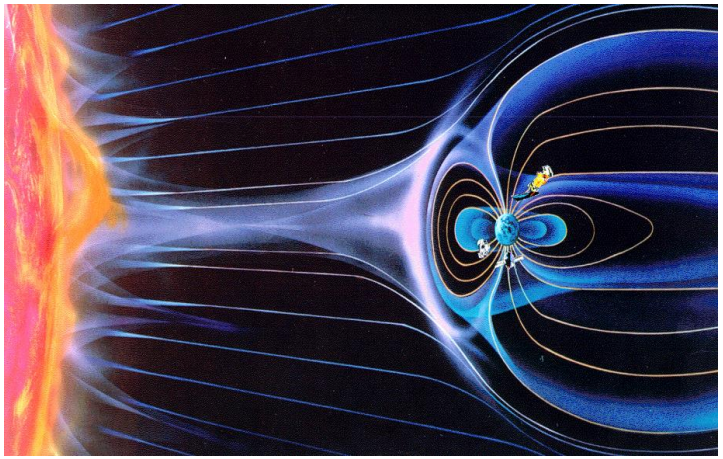
⇨ Milestone in the AOP

Team Members: Eric Kihn, Rob Redmon and Aaron Ridley

Status: This project has now created a consistent, integrated historical record of the near-Earth space environment by coupling observational data with physics-based numerical models. Effort supported by AF/CCC funding.

Space Weather program

AOP 2Q FY06 Milestone
National Geophysical Data Center



Milestone: Construct a 15-year gridded database of results from linked assimilation models.

Program: Space Weather (Weather & Water)

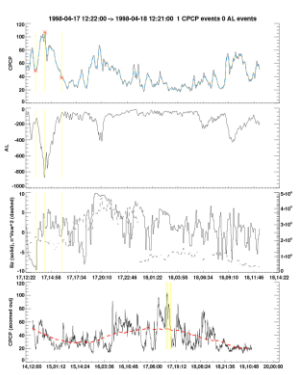
POC: Dr. Eric Kihn – 303 497-6346

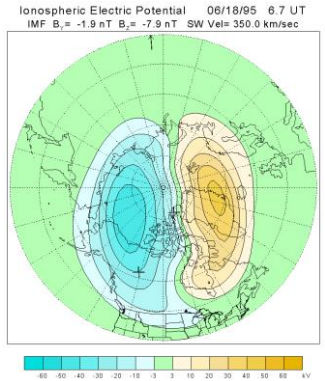
Status: Completed (28 March 2006)

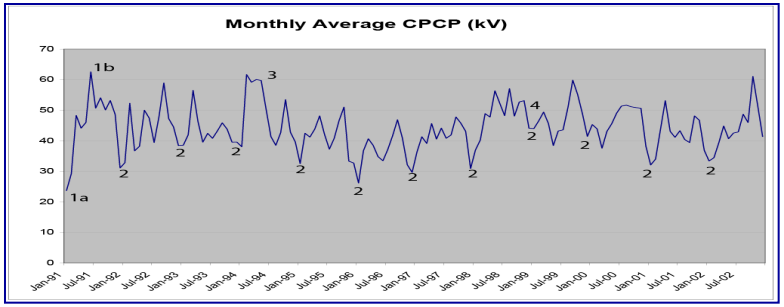
Description: Create a consistent, integrated historical record of the near-Earth space environment by coupling observational data with physics-based numerical models.

Significance: Data are crucial for civilian and military planners to understand daily SWx forecasts and to recognize long-term climatic changes.

Future Work: Incorporate additional datasets including satellite data for improved accuracy and precision.







STP/SEG Task
CLASS Recon Force

Comprehensive Large Array-data Stewardship System

Background – CLASS is the archive and distribution system for NOAA's large array data. NGDC is getting a node.

Purpose – NGDC would like to rapidly proto-type and develop an "open-CLASS" architecture capable of integrating many of NGDC's diverse data sets with the CLASS-ADS.

Status

2QFY06 – Project plan to C. Fox

3QFY06 – Interface specification complete

4QFY06 – Proto-type system operational

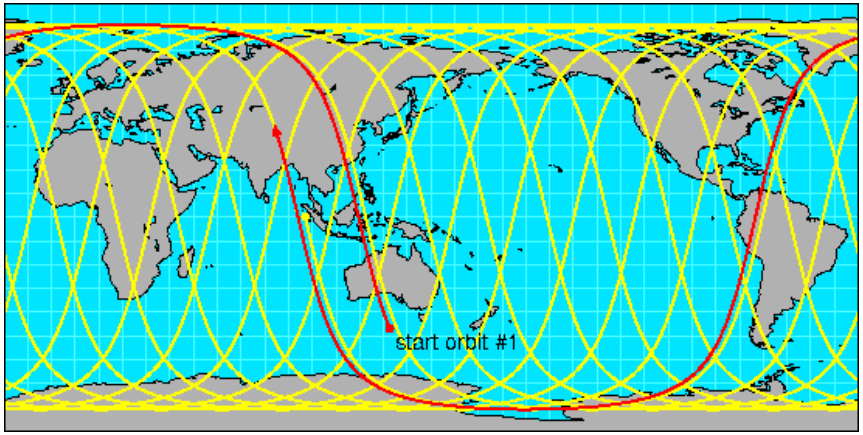
Team Members: Eric Kihn, Rob Redmon, Rob Prentice, Mikhail Zhizhin, Ted Habermann

Status: The project plan is complete and will be presented at the CLASS workshop – WV. The CIRES personnel have been selected and development will begin in early April.

Space Weather program

STP/SEG Task
Satellite SWx Data

POES daily orbits



Background – NGDC maintains a 30-yr historical database of satellite SWx data from DMSP, POES, and GOES

Purpose – Satellite data are used to determine extremes in SWx conditions and monitor long-term variations in the space environment. These data are also used in specific case studies in coordination with other space data.

Upcoming Milestones

2QFY06 – Publish Looking-Forward-to-GOES-R web announcement (***done***)

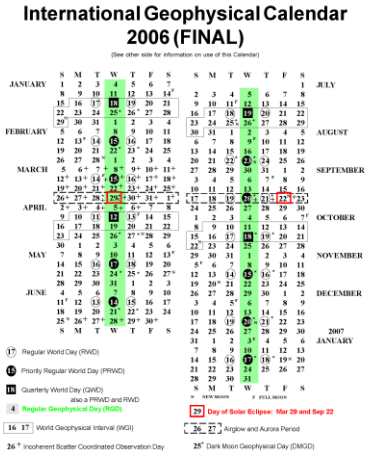
4QFY06 – Complete migration of SWx data to ADIC TLS; GOES SEM, POES SEM and GOES SXI (***done***)

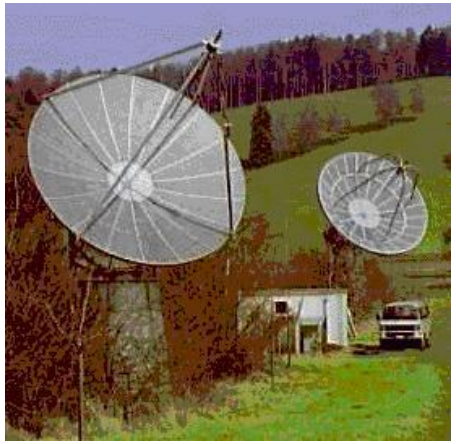
Team Members: Dan Wilkinson, Ed Erwin

Status: A "Looking Forward to GOES-R" announcement has been published and posted to the web. The migration of all SWx data except for DMSP has now been migrated from Tivoli to ADIC TLS.

Space Weather program

STP/SEG Task
Solar Data Services





http://www.ngdc.noaa.gov/stp/SOLAR/solar.html

Background – The Solar Data Services group handles, archives and distributes solar data from the following disciplines; solar phenomena, solar flare-associated events, cosmic rays and solar publications.

Purpose – Provide a permanent repository for solar data to monitor changes in the sun and to track the influences that the sun has on our lives and environment.

Upcoming Milestones

2QFY06 – RSTN data rescue (***done***)

3QFY06 – Add 50 GB of high resolution daily solar H-alpha images to NGDC archives

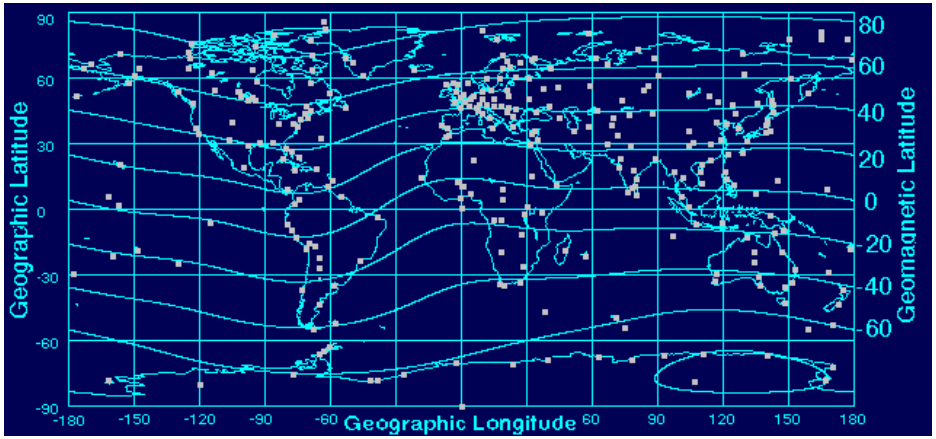
Team Members: Helen Coffey, Ed Erwin, Dan Wilkinson

Status: The RSTN fixed-frequency data through 2004 have been quality checken and loaded into SPIDR. The data are now available for user browsing and plotting. NGDC/LASON is continuing to scan full disk Boulder solar H-alpha images at 4000 dpi (about 12 images/day).

Space Weather program

STP/SEG Task
Ionospheric Digital Database

Global Ionosonde Network



Background – Ionograms are recorded tracings of reflected ionosonde radiowave. Reflected radiowaves provide critical information on the bottomside ionosphere up to the F_2 peak in electron density.

Purpose – Historical ionogram records are used to monitor ionospheric variability and extremes. Efforts are underway to make current measurements available in near real-time to support SWx operations.

Upcoming Milestones

4QFY06 – Automate the collection, analysis, archive and dissemination of the USAF ionospheric sounding stations

Team Members: Rob Redmon, Terry Bullett, Ray Conkright, Justin Mabie

Status: The Mirrion project continues. SEC has stated a requirement for continuous ionosonde data. No progress has been made on the transfer of ionosonde ownership from AFWA. An SEC concern on the reliability of the NGDC ionosonde database is being addressed.

Space Weather program

Accomplishments
Space Environment Group

- SPIDR 4.0 Testing on-going, planned presentation at SWW
- SGD-3 monthly issues compiled and put on website
- Attended and presented at eGY meeting (March)
- Modified ionospheric CDMP rescue plan
- Hosted Dr. Garner (UT/Austin) for SIMM integration
- 2 new solar CDMP proposals funded
- Large percentage of staff completed IDL int/adv training
  - New IDL-Java SPIDR application is a direct result

Issues & Concerns
Space Environment Group

- **Impact of CLASS on staff time – NGDC mission impact**
  - **Key SEG personnel (EAK/RJR) are being diverted to CLASS**
  - **SEG's core mission may be adversely affected**
  - **Recommend hiring a CIRES person to help maintain SPIDR**
- **Ionospheric Data Quality Issues**
  - **Some problems documented in SPIDR data**
  - **Lack of strong NGDC response to community**
    - **NGDC credibility issue**
  - **Need to develop & advertise a specific correction plan**
- **Concerns with AF/CCC funding**
  - **No funds received this FY so far**
  - **No direct impact but would end the SWA program**
  - **Need to pursue different funding sources**

Issue For The Director
Satellite SWx Data

Issue: NPOESS Nunn-McCurdy Recertification

Background: NPOESS is continuing to undergoing a Congressionally-mandated Nunn-McCurdy recertification. The estimate costs for the baseline NPOESS program have more than doubled (to *tbd*) with a near-term shortfall (FYDP) of *tbd*. Various options are under consideration to structure an executable program. Congress ultimately decides whether the restructured program is defensible and approved.

Action Plan: The future of NPOESS could potentially impact CLASS. In addition, since the costs for the NPOESS program are shared between the AF and NESDIS there could be a collateral effect on the NESDIS budget depending on how things shake out.

Action for the Director: Info only. No action required at this time.

Concluding Remarks
STP Program Management Review

- STP division remains healthy although there is a continuing EOG funding shortfall
- How EOG fits into the NOAA program structure continues to be a challenge
- Mission continuity is a concern giving scheduled or possible retirements/departures/critical equipment
- CLASS WILL have an impact on our day-to-day NGDC responsibilities
- Problems with the ionosonde database need to be dealt with quickly